Water Quality Planning and Implementation for Irrigated Agriculture on California's Central Coast

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Nonpoint Source (NPS) Conference

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California's Central Coast

- 11 Major Watersheds
- 6 Counties
- 12 Coastal Cities
- 6 Congressional Districts
- 7 million people w/in 25 miles
- Multiple Land Uses

Monterey Bay National Marine Sanctuary

Central Coast Agriculture

- 3 billion dollar industry
- Over 60,000 people employed
- Over 200 types of crops -

  Lettuce, berries, apples, broccoli, artichokes, cauliflower, celery, mushrooms, grapes, timber, cattle, etc.

Water Quality Concerns

- Sediments
  - Can bury spawning grounds for fish
  - Can bury riparian and wetland ecosystems
  - Carries persistent pesticides (ex. DDT) to coast and ocean

- Nutrients
  - Can cause harmful algal blooms
  - Can result in loss of native plant species

- Persistent Pesticides
  - Can concentrate in animals and move up the food chain
  - Can result in disease or lack of successful reproduction

Sanctuary Agriculture and Rural Lands Plan

Goal: Reduce agricultural runoff in the form of erosion, nutrients, and pesticides

AWQA: Agriculture Water Quality Alliance

Main Partners:

Coalition of Central Coast County Farm Bureaus
Natural Resources Conservation Service
Monterey Bay Sanctuary
Resource Conservation Districts
UC Cooperative Extension
Regional Water Quality Control Boards

Coalition of Central Coast County Farm Bureaus

-Agricultural Water Quality Program-

Coalition Program

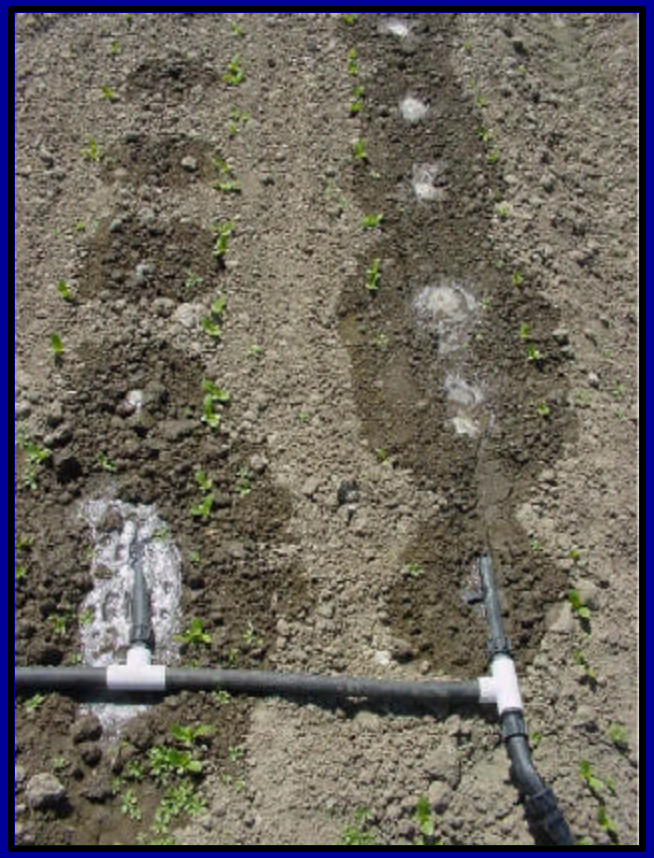
Voluntary

Farmer-Led

To Protect Water Quality

Six County Region

First program in California formed by farmers to PROACTIVELY address water quality issues.



Formed before TMDLs, Ag Waiver, Etc.

Watershed Working Groups

- Farmers Work Together
- Identify Water Quality Problems
- Implement Cost-Effective Solutions

Monitoring

On Farm Monitoring

~Done by the farmer

~Identifies water quality problems

~Practice Assessment

Watershed Level Monitoring

~Above and Below Groups

~Protects individual growers

~Reported to Regional Board

Farm Water Quality Planning Short Course

UCCE/NRCS

Product

- Water Quality Management Plan
  - Individual to each operation
  - Short course supports completion of Plan
    - Resource & Facilities Inventories, Maps
    - Basin Water Quality Information
    - Farm Assessment and Practices Planning
    - Methods for Self Evaluation

E2. Do you notice soil erosion from fields and other growing areas with steep slopes or long lengths of run?

ž Yes ž No

Notes:

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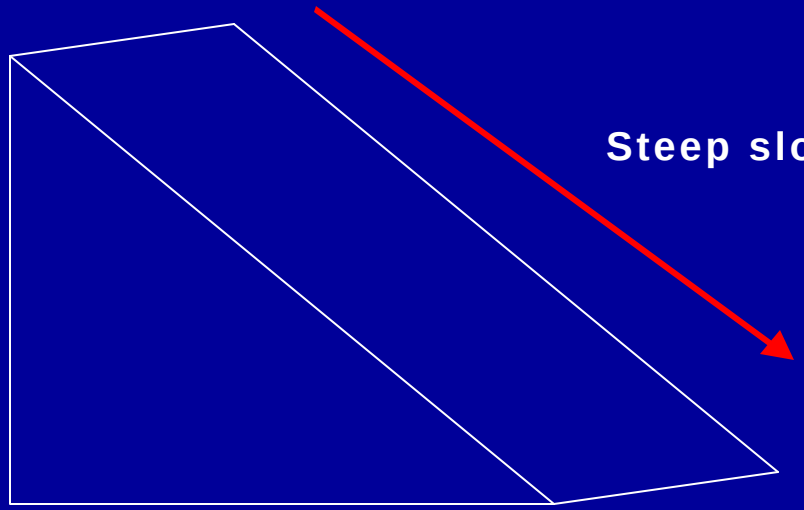
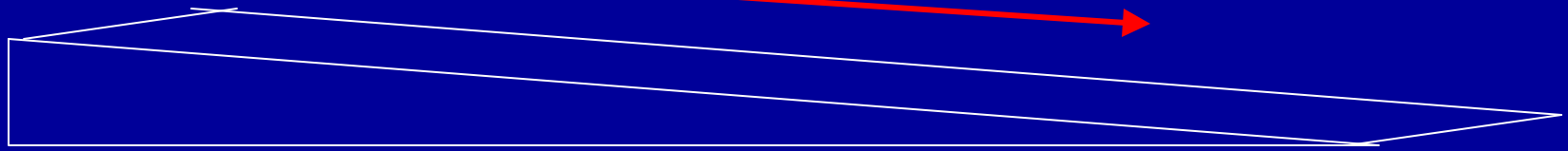
Develop a Field Layout to Minimize Erosion Potential									
	Used or could be helpful	Location(s)	Year(s) used						
			2000	2001	2002	2003	2004	2005	2006
Rows are placed on slopes and grades that minimize erosion	X	Block 15							
Contour Farming #330									
Contour Orchard and Other Fruit Area #331									
Row Arrangement #557			X	X	X	X			
Long runs are broken up									
Access Roads #560									
Contour Buffer Strip #332									
Diversion #362									

Erosion from Steep or Long Slopes



Steep slope accelerates runoff

Long run accumulates and concentrates runoff



Erosion from Steep or Long Slopes

Long length of run with moderate slope.

Management Practice

Contour Farming or **Row Arrangement**

Managing Irrigation

Managing pesticides and nutrients

Self evaluation techniques demonstrated

Our speakers are local resource providers

- UC Cooperative Extension Advisors
- NRCS technical field staff and cost share programs
- Regional Water Quality Control Board
- Resource Conservation Districts
- Department of Fish and Game

http://waterquality.ucanr.org

Program extension to other regions

Implementation of Water Quality Plans

A plan is just the first step…

…follow up support is essential

Tailgate workshops

Individual consultations

Cover Cropping

Grassed Waterways

Grassed Roads

Hedgerows

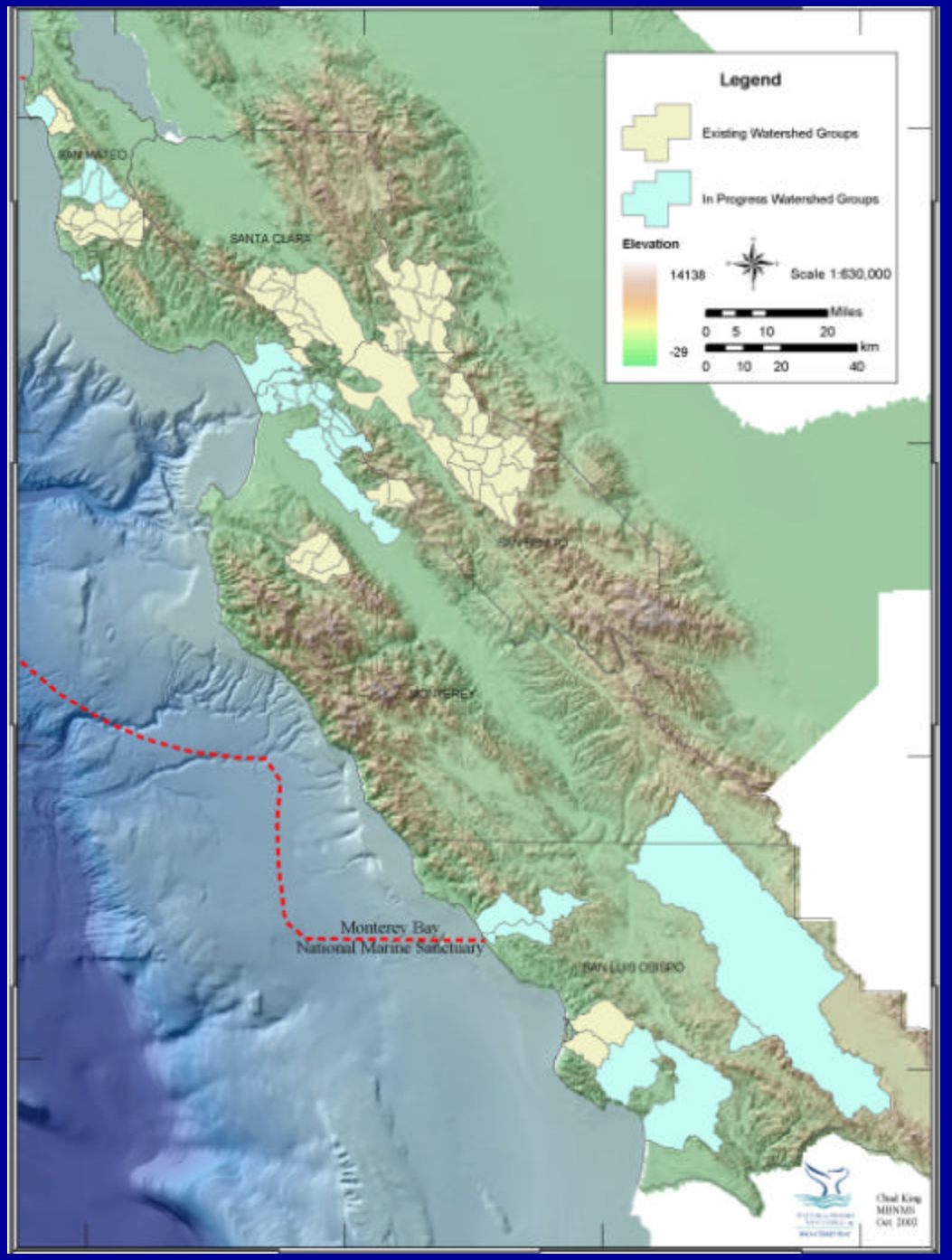
Sediment Basin

Tracking Success - Annual Watershed Reports

- Number of Farmers involved
- Acreage represented
- Crop diversity
- Watershed level monitoring data
- Conservation practices installed

Successes

- 18 watershed groups
- Over 400 farmers
- Over 200,000 acres
- Water Quality Plans and Conservation Practices

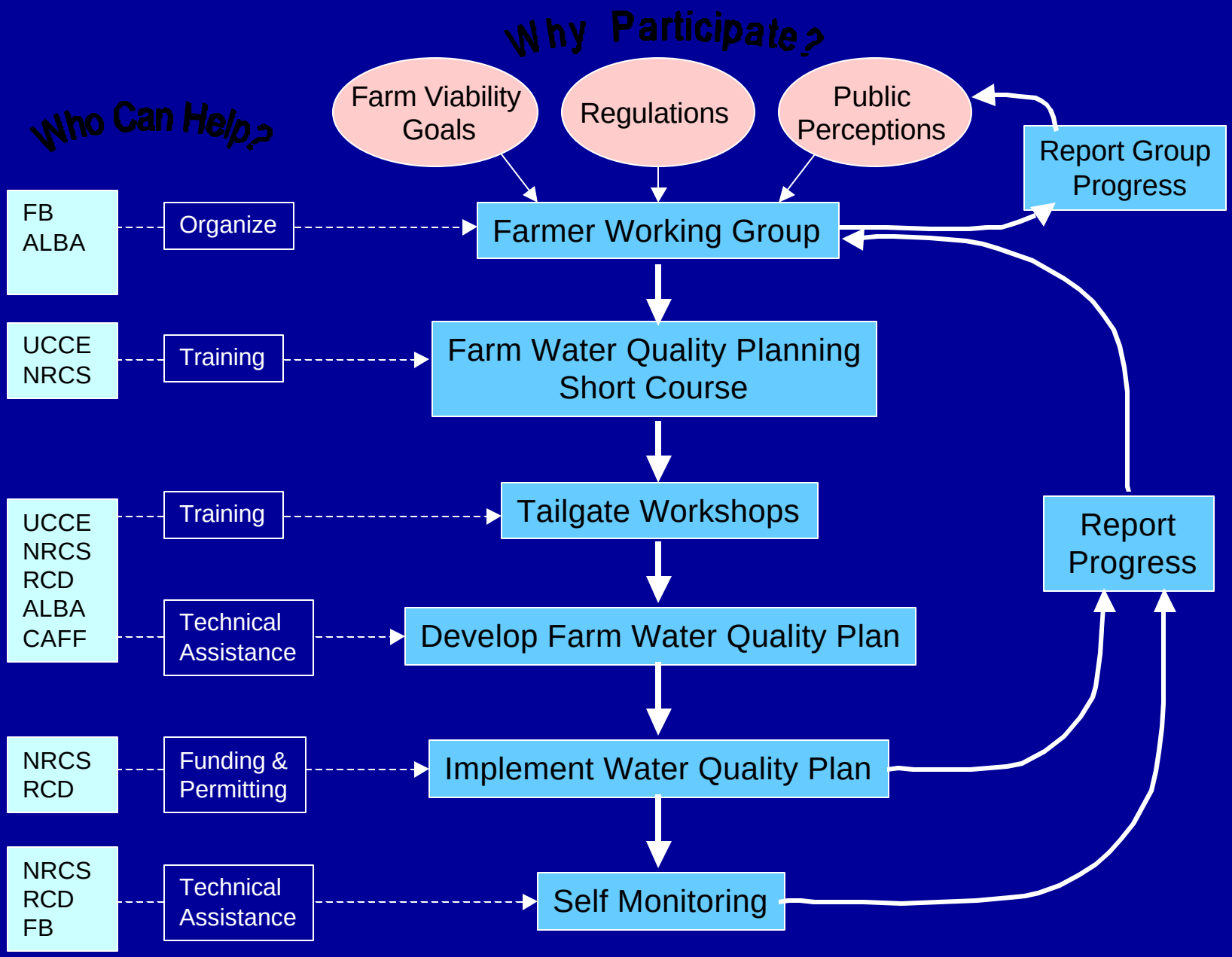


New Regulatory Climate

-Ag Waiver Implications-

- Is the voluntary program for all farmers?
- Incentives vs. Regulation
- Next Steps

How do Farmer Led Working Groups Function?



Advantages of the Water Quality Planning Approach

- Farm coalition drives the process.
- Protects individual producer privacy
- Identifies institutional gaps and barriers
- Increased technical agency efficiency
- Use skills of partner organizations
- Leverage funding

Future Challenges to Implementation

- Lack of technical field staff to provide timely support
- Need for practical How-to technical materials and cost estimates
- Contradictory guidance provided by food safety inspectors
- Permitting requirements for some practices
- Concern about creating endangered species or pest habitat
- Increased costs without any market return
- Concern that voluntary efforts will become a required standard
- Difficult to measure degree of water quality protection